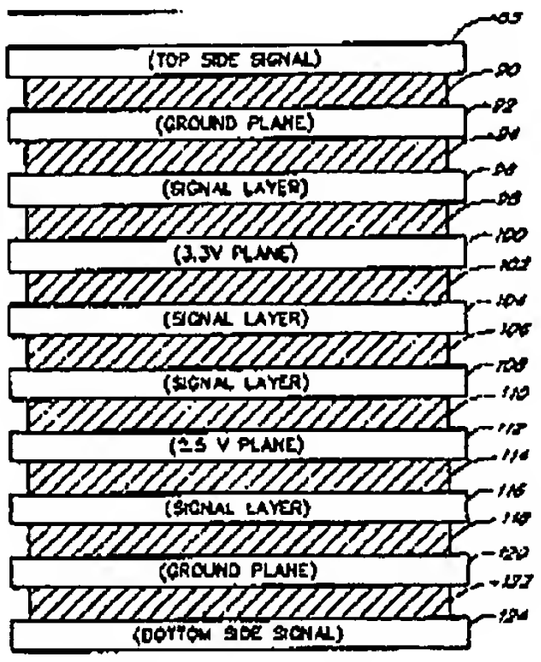
REMARKS

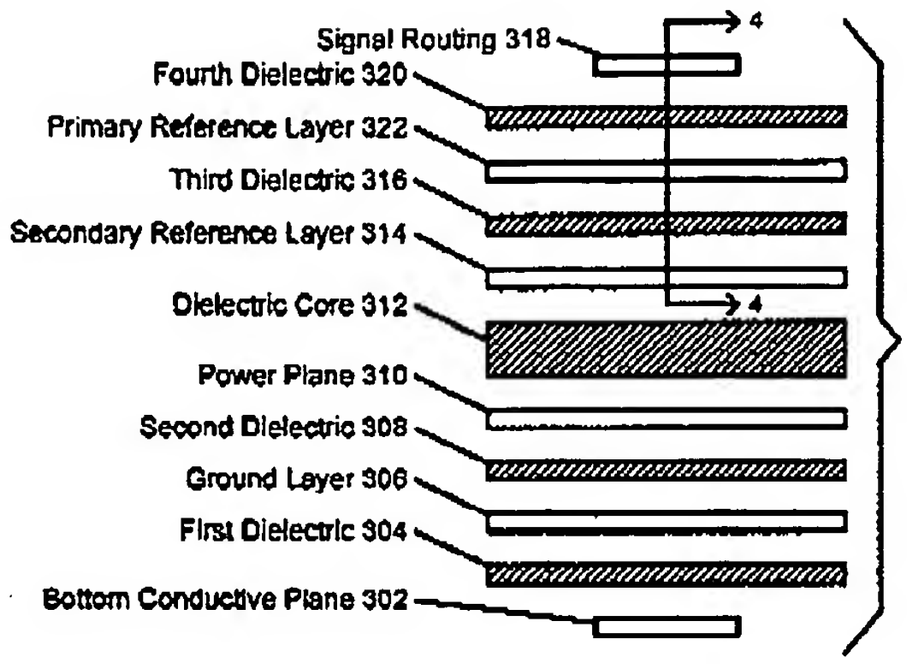
Claims 1-14 are pending in this application. Claims 1-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Koontz et al. (U.S. Patent No. 6,181,004 B1) (hereinafter "Koontz"). Applicants respectfully traverse these rejections. Claim 1 has been amended to provide correct antecedant basis for the words "the impedance tolerance value" in the thirteenth line of the claim. Specifically, the word "tolerance" was inadvertently, by clerical error, omitted from the third line of the claim. This amendment is not meant to narrow the scope of independent claim 1 and should not be construed as such. Applicants respectfully assert that a new search should not be required.

Applicants respectfully submit the cited reference does not teach, suggest or disclose "[a] semiconductor package, comprising: a dual referenced transmission line having a predefined characteristic impedance and characteristic impedance tolerance value; … and wherein at least one physical parameter associated with the inter-plane impedance is selected such that the characteristic impedance value of the dual referenced transmission line does not exceed the characteristic impedance tolerance value with respect to the first and second conductive planes" (e.g., as described in the embodiment of claim 1).

First, Applicants agree with the Office Action's assertion that Koontz does not expressly disclose at least the selection of a parameter associated with inter-plane impedance such that the impedence value of the dual referenced transmission line does not exceed a characteristic impedance tolerance value.

Further, Applicants note Koontz does not relate to, and does not consider, dual referenced transmission lines. The physical structure (i.e., the stackup) of a dual referenced transmission line is different from the physical structure of the "multilayer module 50" of Koontz and inadequate to support a proper § 103(a) rejection. The Office Action, however, considers Koontz structure to be relevant. Applicants disagree and present a side-by-side comparison of the two structures for the convenience of the Office:





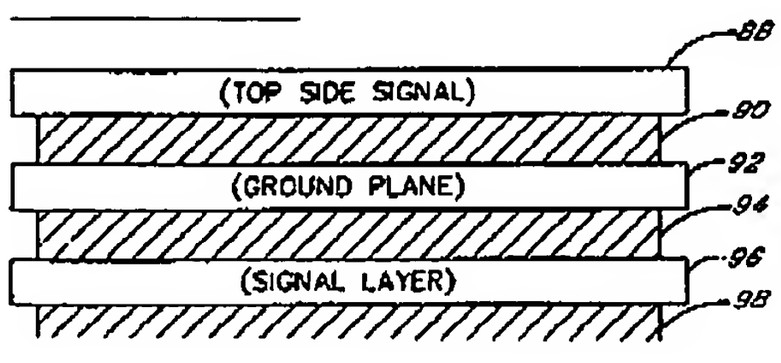
As is seen from the side-by-side illustrations above, the structure of Koontz is missing, at least, a secondary reference layer (i.e., a reference plane) beneath Ground Plane 92. The layer beneath Koontz's Ground Plane 92 is a signal plane, which is identified as Signal Layer 96. Signal Layer 96 cannot be considered as a reference plane within the ordinary meaning of the term. Therefore, Applicants submit since the structure disclosed in Koontz does not reflect the dual referenced transmission lines as specifically recited in embodiments of the present invention, Koontz is inadequate to support a proper §103(a) rejection.

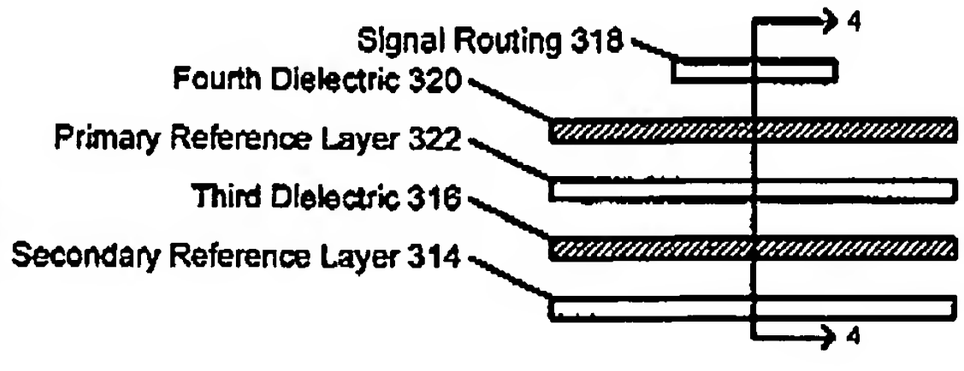
Moreover, the Office Action asserts that Koontz discusses the controlling and matching of the impedance of the ground and signal layers (column 7, lines 8-16) and asserts it would have been obvious to one of ordinary skill in the art at the time to vary the relative impedances of various layers with regard to one another for the purpose of providing a clearer signal and a more predictable result. Column 7, lines 8-16 state:

> The impedance of the signal lines on a conductive layer may be controlled by the thickness and type of dielectric material used in the insulation layer and by the thickness and width of the metallization of the conductive layer using known techniques. By positioning signal layers on opposite sides of the ground layers, and by selecting the type and thickness of the dielectric between the ground layer and the two signal layers, the impedance of the signal layers may be controlled and matched.

Applicants respectfully assert that Koontz teaches "positioning signal layers on opposite sides of the ground layers [adjacent to the signal layers]." The signal layers referred to are the Top Side Signal 88 and the Signal Layer 96. Koontz emphasizes that placing signal layers on opposite sides of a ground layer will prevent cross-talk between signal lines on each

of the signal layers. Dual referenced transmission line does not position signal layers on opposite sides of ground layers as described and illustrated in Koontz.





Koontz teaches that the impedance of a first signal line on Top Side Signal 88 (with reference to the Ground Plane 92) is distinct from, and independent of, the impedance of a second signal line on Signal Layer 96 (with reference to the Ground Plane 92). Note that Koontz relates to a structure where there are two signal lines; a first and a second; one on top and a second below a single shared ground plane. Dual reference transmission line, on the other hand, relates to a structure with one signal line. The impedance of the one signal line with reference to the Primary Reference Layer 322 may be different from the impedance of the same signal line with reference to the Secondary Reference Layer 314. The claimed invention does not relate to Koontz, which offhandedly comments on the impedance of first and second signal lines that share a single reference plane (i.e., Ground Plane 92) sandwiched between them. The two structures (Koontz vs. the claimed invention) are so different that one of ordinary skill in the art simply could not find a motivation in Koontz to so drastically change its structure as to arrive at the claimed invention.

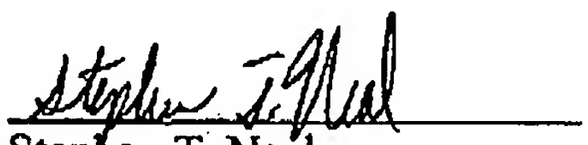
In order for a 103(a) rejection to succeed, each and every limitation of independent claim 1 must be in the cited references. For the reasons cited above, Koontz fails to disclose each and every element of independent claim1. Since each and every limitation is not found in the cited references, the 103(a), claim 1 is allowable and the 103(a) rejection should be withdrawn. Independent claim 4 contains similar allowable limitations. Claims 2, 3 and 5-14 are allowable for depending from allowable base claims.

For at least all the above reasons, the Applicant respectfully submits that this application is in condition for allowance. A Notice of Allowance is earnestly solicited.

The Examiner is invited to contact the undersigned at (408) 975-7500 to discuss any matter concerning this application. The Office is hereby authorized to charge any additional

fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 11-0600.

Respectfully submitted,
KENYON & KENYON

Dated: October 14, 2005 By: 

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